

## CONTEMPORARY OPORTO FRAGMENTS: OPPOSITIONS ON THE MORPHOLOGICAL RELATIONSHIP BETWEEN COLLECTIVE HOUSING AND THE CITY

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### Abstract

Although this paper focuses on Oporto, the second largest city of Portugal, it is believed that its transformation process presents similarities to those of many other European cities during the 20<sup>th</sup> century, with comparable results: some residential areas remained as cut offs from the urban fabric, opposed to others which became apparently integrated.

Using residential areas built or planned in the Oporto's city centre and peripheral expansions since the 1940s as case studies, it is our intention to question their degree of integration, from a strictly morphological viewpoint. Therefore from that perspective, it is discussed why some of these urban fragments manage to be integrated pieces of the urban fabric while others don't.

It is thus argued that the specific morphological long-term bond between the city's public space and its buildings, in our opinion preserved during Oporto major transformations occurred from the early 1940s to the late 1960s, was somehow disregarded in later urban residential interventions.

The paper is divided in two sections. The first part consists in a general overview, aiming to portray different policies applied during the 1<sup>st</sup> half of the 20<sup>th</sup> century, from amendment strategies to planned interventions towards the Oporto urban fabric. The second part concerns some *urban fragments*, mainly residential areas with relevant dimension, through which we'll try to demonstrate the diversity of urban experiences that emerged from the moment when the city's morphology started to change considerably, in the early 1940s, while confronting them with some contemporary interventions.

The *composite Oporto city* is thus the overlap of fragments from distinct decades, intervention strategies, architectural ideas and ways of building, and our research framework expects to underline that new housing building types, as well as new floor plan distributions, can't ignore long-term formal relations between the city and its buildings.

**Keywords:** Oporto, typology/morphology, collective housing, 20<sup>th</sup> century, urban interventions

## **1. INTRODUCTION. FROM THE CITY OF FRAGMENTS TO THE FRAGMENTARY CITY**

The proposed essay is enrolled in the scope of Architecture and Urban Theory and History. Although it focuses on the Portuguese city of Oporto, it is believed that its transformation process presents similarities to the ones of many other European cities during the 20<sup>th</sup> century, with comparable results: some residential areas remained as cut offs from the urban fabric, opposed to others which became apparently integrated. The reasons can be due to several factors, but this paper will approach mostly the urban dynamics that results from the inner relation between the shape of the buildings and the shape of the city.

Generally speaking it can be said that the city is “a group of unordered fragments, distinct parts unrelated to each other and that belong indistinctly to the ancient city and to its most recent expansions”(MOTTA, PIZZIGONI, 1995). Indeed, the Oporto city's fragmentary nature, that is more or less evident in some city parts, is not something only related to contemporaneity or to the peripheral areas' construction. But while in the *historical city* this fragmentation results from the superposition and stratification occurred over time, in the contemporary city this reality seems to be a result of its inherent logic.

The contemporary city (from over the last three decades) acquired its fragmented condition not only because it was built over time, but mostly because the fragments are frequently generated by strategic or speculative processes, that underestimate the design of public space, which makes it difficult to achieve the formal coherence and compactness that can be found in the traditional city. The fragment's understanding itself that in the ancient city was given by erudite analysis, i.e. through an exhaustive knowledge of the city growth's different periods, today it is perfectly recognizable by ordinary citizens, who are able to identify the interventions' maladjustment, or the urban space's inability to integrate them.

In this paper it is thus argued that the specific morphological long-term bond between the city's public space and its buildings (in our opinion preserved during Oporto major transformations occurred during the early 1940s and late 1960s) was somehow disregarded in later urban residential interventions.

The methodology adopted involves choosing some cases studies, built between 1940 and 2000 and related to different urban intervention policies, city location and real-estate investment framework. The analysis focuses on specific typological and morphological analysis criteria that in our opinion connect the shape of the dwelling with the shape of the city. These have been defined by authors that have studied the Oporto context and identity in that field over time such as F. Barata Fernandes (1996), and more recently T. Calix Augusto (2013), in a larger scale of approach.

## **2. FROM AMENDMENT INTO PLANNING IN OPORTO'S CITY CENTRE**

### **The emergence of typo-morphological laboratories at the city's core during the 1<sup>st</sup> half of the 20<sup>th</sup> century**

In the 1<sup>st</sup> half of the 20<sup>th</sup> century, generally speaking, Oporto maintained its traditional ways of property partition, characterized by long narrow lots where buildings faced the street and backyards occupied the remaining elongated land. New possibilities to build occurred only occasionally, when old buildings where demolished, manufacturing units where deactivated or private properties where specifically divided to invest in construction. The main concern regarding the city's core is the amendment of the existent streets and roads.

It was only in the early 1940s, with the interventions proposed by the then created Municipality's Office of Urbanization, that major changes in concept and parcelling proceedings would occur, and only in specific areas in the city's core, where detailed plans were developed. Nevertheless, at an intermediate stage around the 1930s, the land register seems to adapt itself gradually to new building types and typological models, updating its structure: the lot's street front gets wider; specific solutions for gables are proposed.

As an urban structure, unlike Lisbon, the capital of Portugal, Oporto grew supported on the opening and consolidation of new streets, instead of the development of planned expansion areas. In fact, the planned growth of the city, a phenomenon generally accepted as having been undertaken only from the 1930s, started only with the publishing of the urban study "Prologue to the Plan of the Oporto City" (1932) written by the engineer Ezequiel de Campos (1874-1965). This document pointed to a structured development with fan-shaped access roads in and out of the city, articulated with concentric rings and crossing streets. (Figure 1)



Figure 1. Extract from the document "Draws of the primary streets of Oporto" (Campos, 1932)

Oporto has also its own specificity regarding collective dwelling. It's a phenomenon that occurred only in the 1<sup>st</sup> half of the 20<sup>th</sup> century, first with the over occupancy of single-family structures. Around the 1920s, new housing buildings began to be constructed, which brought significant changes to the city's image and morphological structure. Until the 1960s most of collective housing buildings were built only to rent purposes, through one or two private promoters' small investments, who preferred to develop individual housing units in individual lots of land. Most large-scale investments can be summarized in two or three intervention areas, mostly near the administrative city's core of Oporto, such as the upper quarters of Sá da Bandeira and Ceuta streets. (Figure 8)

In these consolidation processes in the 1930s and 1940s, it's noteworthy that the construction of multifamily housing by private developers occurs specifically in the city's core, and not on mono-functional areas with low degree of urbanity or outside the city. To date the residential interventions focused on the transformation of pre-existing urban fabric.

The city's expansion through residential zones built by private promoters only seems to have

arisen from the 1960s. However, in the 1<sup>st</sup> half of the 20<sup>th</sup> century it can be observed significant changes from the point of view of the city's urban fabric transformation: it evolved from the dominance of the single-family houses, to the conclusion that this kind of buildings made sense only in peripheral areas.

Even though, the Oporto urban centre was still not consolidated by multifamily buildings, as they were mostly occupying previously empty lots. Urban blocks like the ones we can find at Sá da Bandeira Street or Ceuta Street are isolated experiments, fragments of a 1940s' attempt to transform the city centre through large-scale operations.

### **Shifting urban dynamics and construction logics. Peripheral expansions from the 1960s to nowadays**

Although the urban expansion of the 1<sup>st</sup> half of the 20<sup>th</sup> century still relied on the opening and construction of a few streets and the development of very few parcelled plans, the 1950s planning strategies brought radical changes, mainly related to the researches that anticipated the first Master Plan of the city, published in 1962 under the responsibility of Robert Auzelle. This plan estimated the emergence of a second urban centre, on the west side of the city (Boavista Area), which the construction of a new road bridge, the Arrábida Bridge (1963) would help to consolidate.

In this period, the replacement of existing buildings with larger constructions became more frequent and most of all consisted in residential property developments and complex plans. According to authors such as Vale and Almeida (2012), this shift in the building scale can be related not only with the (planned) expansion of the city, but mostly with the promulgation of specific legislation, such as the one that formally established the *legal system of horizontal property* (Portuguese decree-law from 1955). With the promulgation of this decree, the rules of shared ownership became clearly defined, namely the common spaces' management and proprietorship.

According to these authors, the implementation of this regulatory statute had a significant impact in the urban dynamics and the city urban fabric's transformation, as it amplified the investors and building contractors' investment/speculation possibilities. The buildings grew in volume, in number of storeys, and above all in the level of detail concerning the collective exterior space design and characterization.

The Boavista Residential Park, set in the new western Oporto centrality, is a concrete result of these circumstances. Simultaneously, a large institution like Santa Misericórdia do Porto (Holy Mercy of Oporto, a charitable institution) continues to invest in housing for renting, on the lookout of the emerging middle class. (Figure 3,5)

After the 1962's Auzelle Master Plan, only two plans were approved and ratified (Oliveira, Pinho, 2008, 85): the Duarte Castel-Branco Master plan (1978-1987) and the Municipal Planning Department's Master Plan (2000-2006).

Just as in the 1960s, the allotment operations undertaken between late 1980s and early 2000s kept focusing on old disused manufacturing facilities or vacant extensive parcels. Some of them were located near the new centralities that emerged with the city expansion, mainly supported by a few streets/connecting axis, as is the case of Mota Galiza Residential Complex, near Julio Dinis Street, and Varandas da Foz Residential Quarter, near Campo Alegre Street. (Figure 3,6)

These real-estate housing developments represent a private intervention strategy common to



many others in the city, where the promoter takes responsibility for the infrastructure's construction and the connection to the surrounding street system. The municipal services don't seem to have profound involvement regarding the public space structuration decisions, as one of its main interest has been promoting urbanization processes without public costs.



Figure 2. Drawing from the Master Plan of Oporto city (1962). "1.2.1.1. Development of the city. Successive expansions"; "Evolution of the urban territory"

RED - 1374 (Fernandine city walls); BROWN - in 1813; GREEN - in 1892; GREY - in 1960

### 3. MORPHOLOGICAL RELATIONSHIPS BETWEEN THE CITY AND ITS BUILDINGS: OPORTO CASE STUDIES

The debate about the housing's typological transformations in Oporto and their urban morphological consequences has been the research framework of several authors. Barata Fernandes, in his PhD thesis (1996) describes the transformation processes of single-family housing into multifamily housing, emphasizing the prevalence of the existing buildings adaptation (and over-occupancy) and the investment in new single-family structures by the end of the XIX century, built in traditional narrow and deep lots.

The author recognizes the existence of three historical residential types - *mercantilist* (XVI-XVII century) *enlightened* (2<sup>nd</sup> half of the XVIII century) and *liberal* (XIX century), which can be closely related to three different periods of the city transformation, and to Oporto's current urban form.

In this research he also sets out some objective typo-morphological analysis criteria, such as: i) the lot's characteristics (date of formation, dominant relation with the slope; size); ii) the building's characteristics (number of facades, internal organization; location of the stairway, number of floors; ventilation devices; ground-floor occupancy and access to upper floors).

On the other hand, Calix Augusto research framework (2013) focuses specifically on the reality of urbanization in Oporto and the analysis of new territories through their morphological specificity. Using concepts as *structure* and *texture* - "shape attributes inherent to the morphological territories primary constitution" (Calix Augusto, 2013, 503), the author builds an

interpretative matrix, which aims to bring intelligibility and legibility to a complex reality that the traditional and conservative analysis instruments seems to fails to interpret. In our specific field of interest, this perspective enables the approach not only to urban models from the past, but also to new residential compositions with less understandable building logics, more or less distant from the centre.

Considering an intermediate urban scale of approach, the urbanization interpretation matrix developed by Calix Augusto (2013, 497-561), identifies different *morphological territories of Oporto*, materialized through three structuring principles – *point*, *line* and *surface area* (2013, 499). This results, in a first level of analysis, in morphological units with *spot occupation*, *lineal morphological compositions*, and *urban framework morphological compositions*. In a second level of analysis, combined with the concepts of *structure* and *texture*, it's established a set of categories/characterization levels, divided in four groups, which we'll attempt to relate to our case studies.

- i) *Morphological territories of urban structuring*
  - Attractor nodules*
  - Attractor lines*
- ii) *Urban structuring and filing morphological territories*
  - Attractor urban frameworks*
- iii) *Urban filling morphological territories*
  - Occupation by urban surface area*
  - Occupation by urban fabric*
  - Lineal occupation*
- iv) *Dotted morphological territories*
  - Spot occupation*

For example, the *occupation by surface area* supposes an autonomous composition that is connected with the surrounding urban environment, while the *occupation with urban fabric* consists in the more classical type of occupation (composed by the street, the lot and the building), generating a system with considerable dimension and density. The *spot morphological unit* is defined by isolated architectonic elements, and the *lineal occupation* refers to compositions that are supported by longitudinal axis like a street or a road.

As said before, this paper proposes the analysis of some *urban fragments*, mainly residential areas with significant urban impact (number of storeys, lot dimensions), through which we'll try to demonstrate the diversity of *urban experiences* that emerged from the moment when the city's morphology started to change, in the early 1940s. In these processes there are significant changes in the collective housing conception, through the implementation of joint plans, the design and characterization of outdoor public spaces or the definition of the ground-floor program. In our opinion, these are key aspects to explaining the degree of adjustment and integration of these operations, fragments or parts of the city, in the remaining urban structure. Therefore, the analysis will focus on these specific aspects:

- The proposed city model and the type or morphological structure on each development (i.e., surface occupation; urban fabric occupation, for example);
- The design of the exterior public/collective space;
- The characteristics of the urban facades and correlated floor-plan disposition (or internal organization of the dwellings);
- The ground floor occupancy (and particular access solutions adopted).

The upper blocks of Sá da Bandeira Street (mid 1930s-1940s) and the Ceuta Street (mid 1940s - mid 1950s) represent two of the most significant residential interventions at the city's core, as they result from close articulation between private promoters and the municipality urban services.

The Campo do Luso Residential Complex (late 1950s - early 1960s) and the Boavista Residential Park (mid 1960s - mid 1970s), located both on expansion areas, offer a new city model, through distinctive forms of residence, probably influenced by the proposals of the Charter of Athens.

The Mota Galiza Residential Complex (early 1990s) and the Varandas da Foz Residential Quarter (early 2000), both developed in voids among urban transition areas, try to promote an articulation between real-estate private investment and urban design.



Figure 3. Oporto. Case studies:

1\_ Sá da Bandeira Street upper quarters; 2\_ Ceuta Street quarters; 3\_Campo do Luso Residential Complex; 4\_Boavista Residential Park; 5\_Mota Galiza Complex; 6\_ Varandas da Foz Residential Quarter



Figure 4. Upper blocks of Ceuta Street and Sá da Bandeira Street, from left to right



Figure 5. Campo do Luso Residential Complex; Boavista Residential Park



Figure 6. Mota Galiza Residential Complex; Varandas da Foz Residential Quarter

### 3.1. The mid 1930s-1940s: urban laboratories at the city's core

#### Sá da Bandeira Street (mid 1930s-1940s) and Ceuta Street (mid 1940s - mid 1950s)

The Sá da Bandeira Street (1875-1955) and the Ceuta Street (1950-1952), both located at the city's centre, document and synthesize specific moments in the transformation of urban intervention logics, regardless of the quality or monumentality of its buildings. (Figure 3,8)

The urban design of both upper quarters of these streets is the result of the activities from the first Municipal urbanization office, established in 1939. This office developed parcelled plans for these areas, experimenting new ways of connection between buildings and the blocks inner yards.

At the Oporto city centre, the building of large blocks was only possible due to the dismantling of areas occupied by old factories, or through extensive land expropriation. The restructuring of these areas meant that the municipal services could rethink the plot division, adapting it to new types of building that were being proposed by investors and more informed architects and engineers. The needs and interests of private investment are critical in this dynamic.

These quarters are morphological units that can clearly be classified as being part of *attractor urban frameworks* following pre-existent urban logics and relations between its structuring elements in terms of public space (street, lot, building) while simultaneously questioning and experimenting new ways of composing these primary elements, in diverse formulations of the traditional urban blocks.

In Sá da Bandeira Street, the first planned interventions date from the 1930s, when urban strategies began to emphasize the need to control the growing of the city and its circulation, as a

long and structured process. Several studies were proposed for the upper block to the west of the street, between Firmeza Street and Fernandes Tomás Street, on which it can be seen the gradual attempt to change its traditional logic. From a block with open tops (early-1941), to solutions with an open courtyard, its shape returns unexpectedly to a closed configuration (mid-1942), fixed later by the construction of a single building. (Figure 7, 10\_SB2)

Although these quarters can be seen as the first attempts to change the traditional inner morphological relation between the traditional public space - the street - and the posterior courtyard, which was suddenly transformed in collective space by the introduction of multifamily housing in larger lots, the fact is that it remained unsolved until nowadays as fruition and service space.

The facades of these new *modern buildings* follow some composition rules that cross decades of residential construction, and that are key to the Oporto building tradition's identity. Over time they contributed to connect and relate heterogeneous buildings through the fenestration metrics, the horizontal lines created by the balconies, and especially through the buildings' materiality.

As a general rule, the apartments' service areas face the posterior courtyard. The reception areas and rooms are located in the main facade, contributing to its urban dignity (and urbanity).

The same happens in the upper quarters of Ceuta Street, with detailed studies of the available territory allotment. The lot division shows larger parcels, 5 on each side of the street, moving from the traditional 6m to 16m wide; the municipal services defined a six-storey limit (including ground floor) for these buildings. (Figure 9\_C1 and C2)

The new buildings, while radically different from Oporto building tradition in terms of language, style and typologies, maintain the alignment of the street, following pre-existent logics, and in this sense reinforcing its character as a structural axis. Therefore, although these blocks can be seen as fragments, from a morphologic point of view these *attractor frameworks* exhibit the density, contiguity and regularity, i.e. a high level of *structure* and *texture* that keeps them connected to the pre-existent urban system.

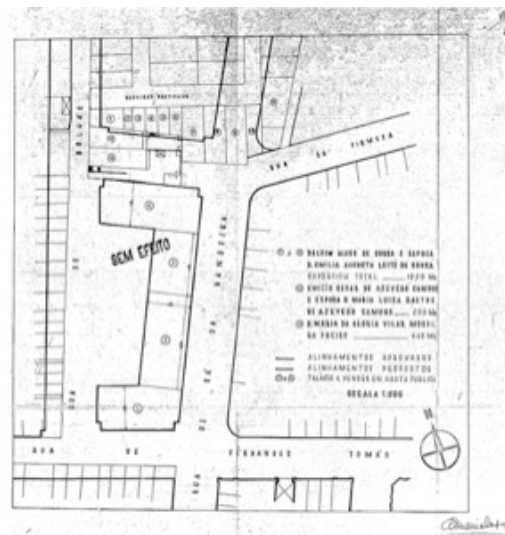


Figure 7. Study from 1941. Fernandes Tomás/Firmeza block (© Oporto Municipal Archives)



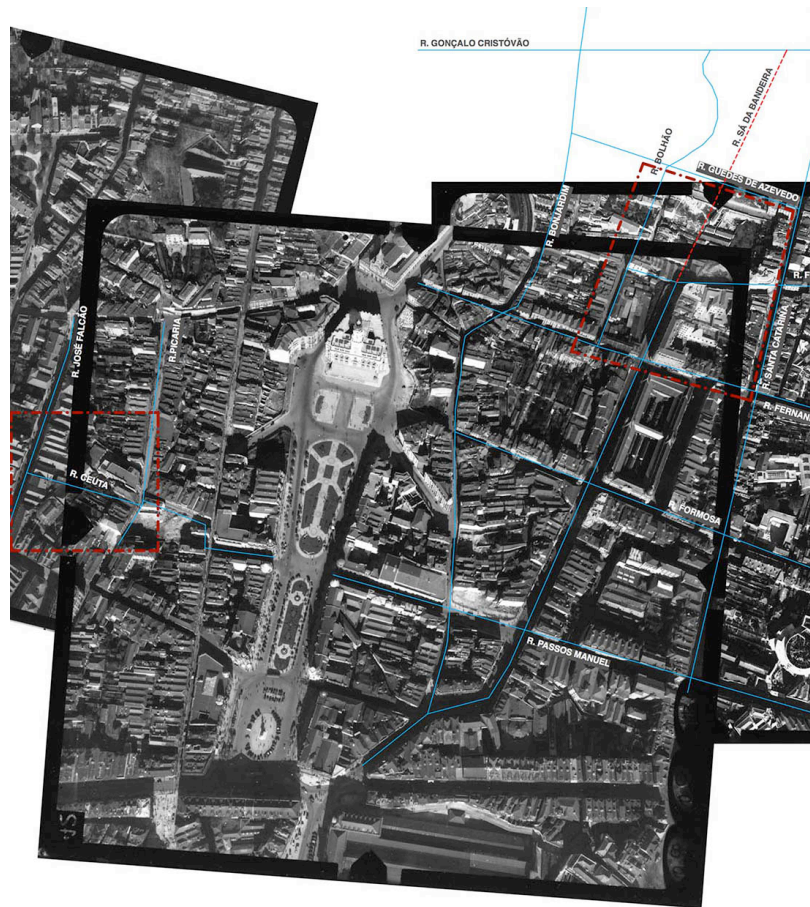


Figure 8. Upper blocks of Ceuta Street, on the left and Sá da Bandeira Street, on the right. Early 1940s, before intervention (© Oporto Municipal Archives, Author's annotations)

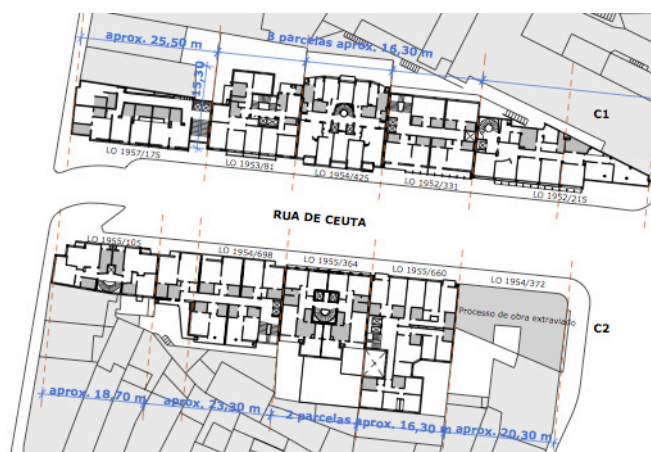


Figure 9. Upper quarters of Ceuta Street. Floor-plan. Esc. 1/4000 (Author's drawings)



Figure 10. Upper quarters of Sá da Bandeira Street. Floor plan. Esc. 1/1400 (author's drawings)

### 3.2. The late 1950s - early 1970s: residential experiments on expansion areas

Located both on expansion areas, Boavista Residential Park on the western site of the city and Campo do Luso Residential Complex to the north (Figure 3), these developments are relevant cases of a paradigm shift regarding to urban housing and associated exterior collective space. In the early 1960/1970s, these interventions clearly attempt to structure delimited parts of the city as autonomous urban pieces, moving away from the traditional closed block. In this sense, from a strictly morphological point of view, these open quarters propose an *occupation by surface area* (Calix Augusto, 2013) with isolated residential buildings, where “the initial reference for its configuration is the parcel limits and the way these relate to access streets or roads, not producing neither an urban fabric, nor defining a continuous urban facade.” (Calix Augusto, 2013, 542-543)

The design of both developments stand out regarding their clear urban concept and defined structuring geometry, that guide the design of the plan, the positioning of each building and the relations that each establish with the surrounding pre-existences. Both interventions propose an *urban park*, personal interpretations from the Charter of Athens' principles, giving special relevance to the characterization of the collective outdoor space. (Figure 11)

They also introduced radical variations regarding the residential types, even to multi-family buildings that became common since the beginning of the 1950s.

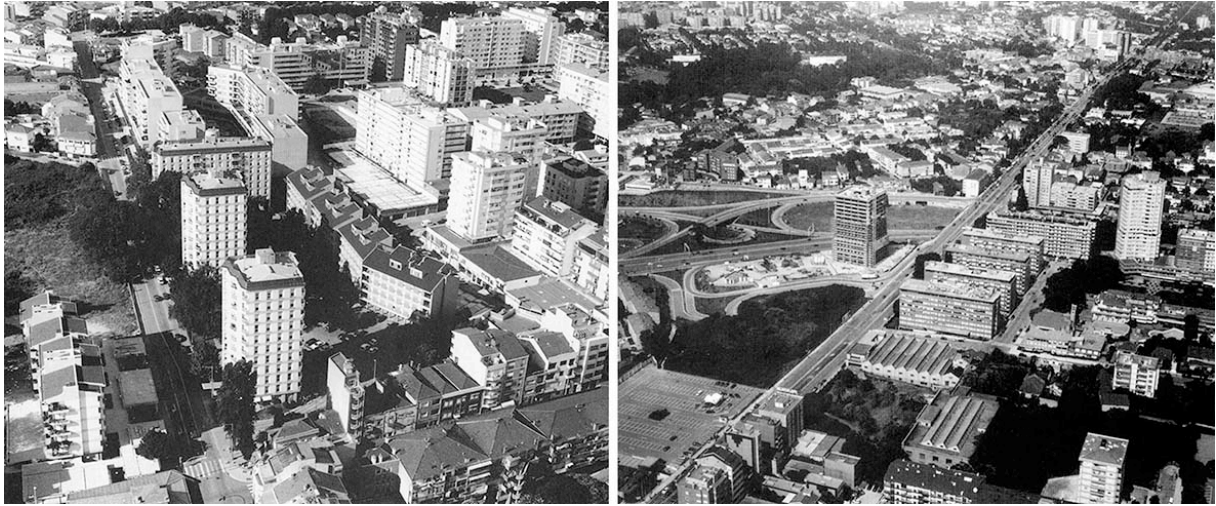


Figure 11. Campo do Luso Complex and Boavista R. Park aerial photographs (© João Menéres)

### **Campo do Luso Residential Complex (late 1950s - early 1960s)**

Campo do Luso is a residential complex with about 150 units (originally to rent) distributed in several isolated buildings spread over a landscape area: two towers, a terraced block and a unit block. Located in Alegria Street, in an area considered at the time as the first outskirts of Oporto, Campo do Luso complex represents an attempt to make the transition from the traditional condensed city to a modern urban fabric, through the proposal of new residential models.

The available lot, resulting from urban voids and a deactivated football pitch, made it possible to develop a project with considerable scale (Figure 13). The initial plan predicted the construction of a large number of stand-alone housing buildings, but only the eastern side of the Alegria Street was accomplished. It also included an innovative program of integrated equipment buildings, like commercial areas, studios for artists and covered parking areas.

Even proposing a *modern city*, Campo do Luso doesn't question the traditional street as a structuring principle in the urban system. Alegria Street keeps its legibility, as the towers, its entrances and the trees punctuate this relation.

It can be said that the pre-existent traditional street is the main axis of a composition where each building and outdoors area has its role, which is based upon a defined relation with the city. For instance, at the time the unit block was intended to close the neighbouring quarter perimeter (a manufacturing unit); the towers would reinforce the street alignment; the terraced block would define the composition background limit. (Figure 12,14)



Two service roads were created, closing the pre-existing quarters, located to the north and to the south of the intervention (manufacturing unit and private backyards). The service areas (kitchen, toilets) of the unit block and the terraced block apartments face these service roads and backyards.

The relation between the ground floor and the surrounding outdoors areas was carefully thought. The collective exterior space, although open to the street, is slightly elevated creating a subtle gradation of privacy. The towers and the unit block have a raised basement, which houses individual storage spaces, the doorman and the gardener apartment, a playground room for the children (unit block) and storage spaces for shops (towers).

The ground floor of the towers holds 3 shops and the doorman apartment, while the ground floor of the unit block is totally dedicated to dwelling. The terraced block has a very unique program on the ground floor, mixing studios for artists with small apartments. The towers' upper floors are occupied with two apartments each floor, displaying typological options that emphasizes the solar exposure over the traditional front and rear facades compartment separation.



Figure 12a, 12b, 12c. Campo do Luso location, on the left (© Google Earth). Recent photographs

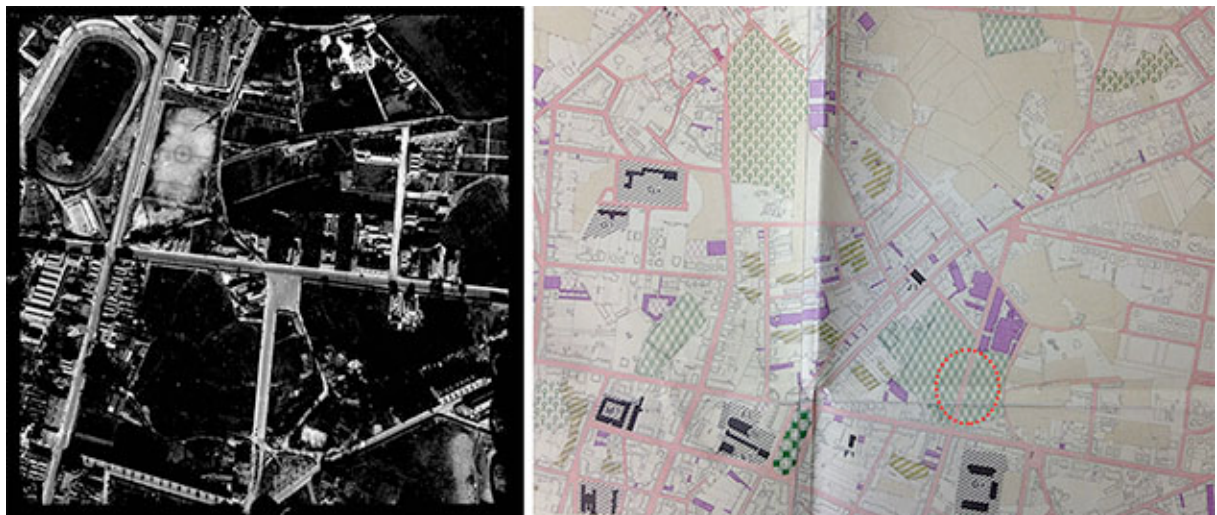


Figure 13a, 13b. Pre-existent lot. Aerial photograph, 1939 (© Oporto Municipal Archives); Extract from the Oporto Master Plan, 1962, on the right



Figure 14. Campo do Luso. Floor-plan. Esc. 1/1400 (author's drawings)

### **Boavista Residential Park (early 1960s – early 1970s)**

The Boavista Residential Park (1962-1973) is situated at Boavista Avenue, on the west side of the city, occupying a lot with considerable size that also confronts Via de Cintura Interna (Oporto's inner ring-road) and connects several secondary streets. It develops a plan that combines collective dwelling (at the time to sell) with varied types of buildings: commercial galleries, office buildings and equipment buildings such as a cinema, a hotel, a swimming pool and a church.

In our opinion, this residential development stands out due to several factors. It relies on a strong urban concept where a defined geometry underlies the general plan endowing it with

rationality and intelligibility. This matrix organizes the location of each building, including the landmark buildings (as the church, for instance).

It's also important to underline the density and multi-functionality of whole real-estate development, the gradation of privacy through the design of the outdoor spaces (which connect the street system with the residential buildings), and finally the detailed design of the ground floor and residential typologies. At different scales, all these solutions are closely related with the multiple dimensions of the city.

Taking the buildings perpendicular to Boavista Avenue as an example (eight-storey apartment buildings), it's possible to highlight several distinctive features, considering Oporto multi-family building previous background. (Figure 18\_A2, A3, A4)

The buildings are placed parallel to each other separated from the Boavista Avenue by a slightly elevated small garden with footpaths and trees. There is an open car parking between buildings.

The ground floor is slightly raised and separated from the street by small gardens or front yards giving privacy to the ground floor apartments and collective facilities such meeting rooms. The entrance hall is clearly oversized, and seeks permeability between the open front yards. (Figure 17,16b)

Each floor has five apartment units, which partition clearly divides day and night activities: the living/dining room and the kitchen are on the western side of the building while the bedrooms stay in the opposite facade. (Figure 18)

As early Oporto bourgeois apartments from the 1940s, these units display a service entrance and a maid's room; the kitchen is oversized and has a preparation area. The bathrooms are placed in a central position. Each apartment building has typological variations, but in fact what stand out most is the complexity of the ground floor outdoor spaces' design. The small gardens, the level differences, and the exterior garden terraces are particularly detailed whenever there's dwelling at ground level. (Figure 17)



Figure 15a, 15b. Boavista Residential Park. Pre-existent lot. Aerial photograph, 1939 (© Oporto Municipal Archives); Extract from the Oporto Master Plan, 1962, on the right





Figure 16a, 16b. General Plan (© Google Earth). Open yards, on the right

Figure 17. Apartment buildings near Boavista Avenue. Ground floor (Agostinho Ricca, 2001)



Figure 18. Buildings near Boavista Avenue. Floor-plan. Esc. 1/1400 (author's drawings)

### 3.3. The early 1990s – early 2000: filling urban voids on transition areas

The Mota Galiza Residential Complex and the Varandas da Foz Residential Quarter are two real-estate developments from the early 1990s and early 2000s. As the developments from the 1960s/1970s, they are the result from the same intervention strategy: occupy intensively the available territory considering its limits, and making the necessary connections with the pre-existent urban fabric. Accordingly, these *morphological territories* are also *occupations by*

*surface area*, although clearly with distinctive characteristics.

The main differences are related to the size of the development, the way of connection with the surrounding streets, and the way the commercial areas and offices are linked with the residential blocks.

### **Mota Galiza Residential Complex (early 1990s)**

The project was developed to occupy the parcel of an old deactivated factory (Jacinto's Factory), which confronted Júlio Dinis Street, a relevant north-south axis in the city. This real-estate private investment proposed a set of residential, commercial, and office buildings, namely a large 170m curved building that according to the project authors' organized the general plan. In that time, this was one of the most iconic residential developments that was being constructed, proposing new ways of living in the city: distinctive buildings isolated with public gardens, with their own security systems, parking, services and shops. (Figure 19,20,21)

The urban system that was created includes a commercial area placed at the centre of the curve, a service street that links all new buildings to the pre-existent streets, and a public garden facing Júlio Dinis Street. The ground floor of the residential buildings is mostly commercial. Each floor has five apartment units with different sizes (with some exceptions): each unit has two or three bedrooms, clearly separated from the daytime areas, as usual in real-estate proposals from the 1980s to nowadays. The living/dining room is usually connected with the kitchen and both are near the entrance. (Figure 21b)

Since its opening, Júlio Dinis Street has been consolidated according to traditional urban construction logics, with buildings facing the street. The Mota Galiza project, changing this pre-existent identity system through the proposal of an autonomous urban isle, seems to have failed to create a contemporary alternative, while contributing to the loss of legibility of the main supporting street. Although this development displays a strong internal concept, that relates each building with the general plan, the segregated commercial areas, detached from the main axis, are difficult to maintain, as well as the public garden, which lacks connection with the footpaths actually used in the surroundings.



Figure 19a, 19b. Mota Galiza Residential Complex. General Plan (© Google Earth). Recent view



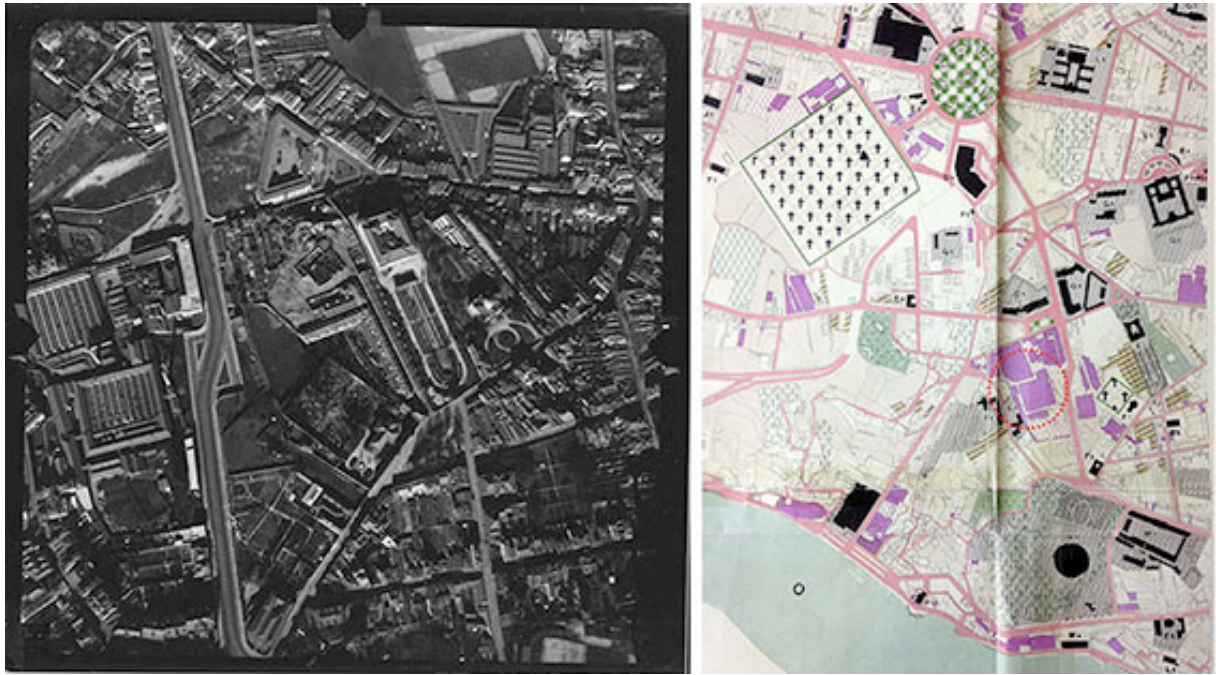


Figure 20a, 20b. Mota Galiza Complex. Pre-existent lot. Aerial photograph, 1939 (© Oporto Municipal Archives). Extract from the Oporto Master Plan, 1962, on the right

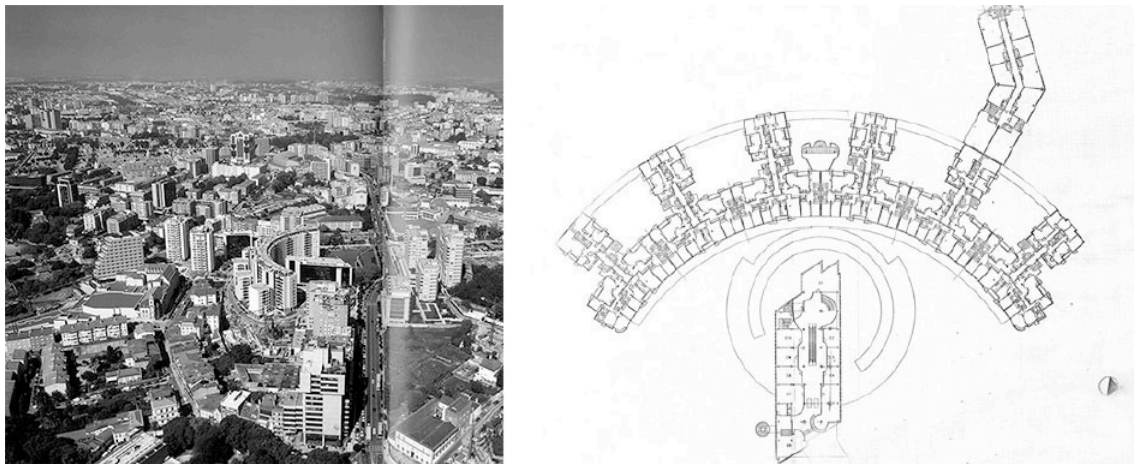


Figure 21a, 21b. Julio Dinis Street. Mota Galiza Complex on the left (© Filipe Jorge, 2001). Floor-plan, on the right (Pádua Ramos, 2013)

### **Varandas da Foz Residential Quarter (early 2000)**

This residential development is the result from an urban allotment process that occupied a vacant large lot near Campo Alegre Street. It consists of five isolated multifamily housing units, from eight to fourteen-storey high, with parking in the basement, and individual shops, commercial galleries or apartments on the ground floor. (Figure 22)

The structuring principle enunciated in the licensing project for the development, was the connection of two existent secondary streets - the Campo Alegre Alley and the Progresso Street, through the opening of a new street (Júlio Lourenço Pinto Street). The development is partially

organized in a closed condominium, mostly because security concerns regarding the proximity of a problematic social neighbourhood.

Each residential block has a different relation with the new street, materialized by the exterior collective space's conception and design: terraces, stairs and small gardens. Although these architectonic solutions are efficient separating the ground floor apartments from the street, they also contribute to the commercial areas poor dynamics.

The buildings entrance hall is quite small and uncharacterized, serving the only purpose of providing access to common lifts and staircases. An interior gallery distributes the single fronted apartments, with distinct areas and dimensions. This project option results in apartments that either have good solar exposition and views (facing south and the new street), or are turned to the pre-existent uncharacterized block interior, facing north. (Figure 24)

Another remarkable fact is the narrowness of the two access roads to Varandas da Foz development. This seems to dictate this urban area segregation along with the lack of equipment buildings or capable commercial areas.

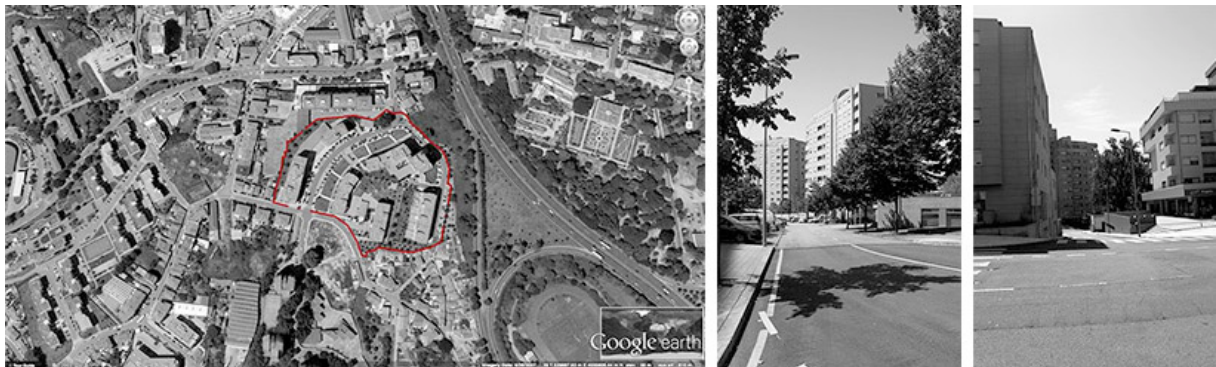


Figure 22a, 22b, 22c. Varandas da Foz Residential Quarter. General Plan (© Google Earth). Views from the street



Figure 23a, 23b. Pre-existent lot. Extract from the Oporto Master Plan, 1962, on the left. View from the ground floor gallery



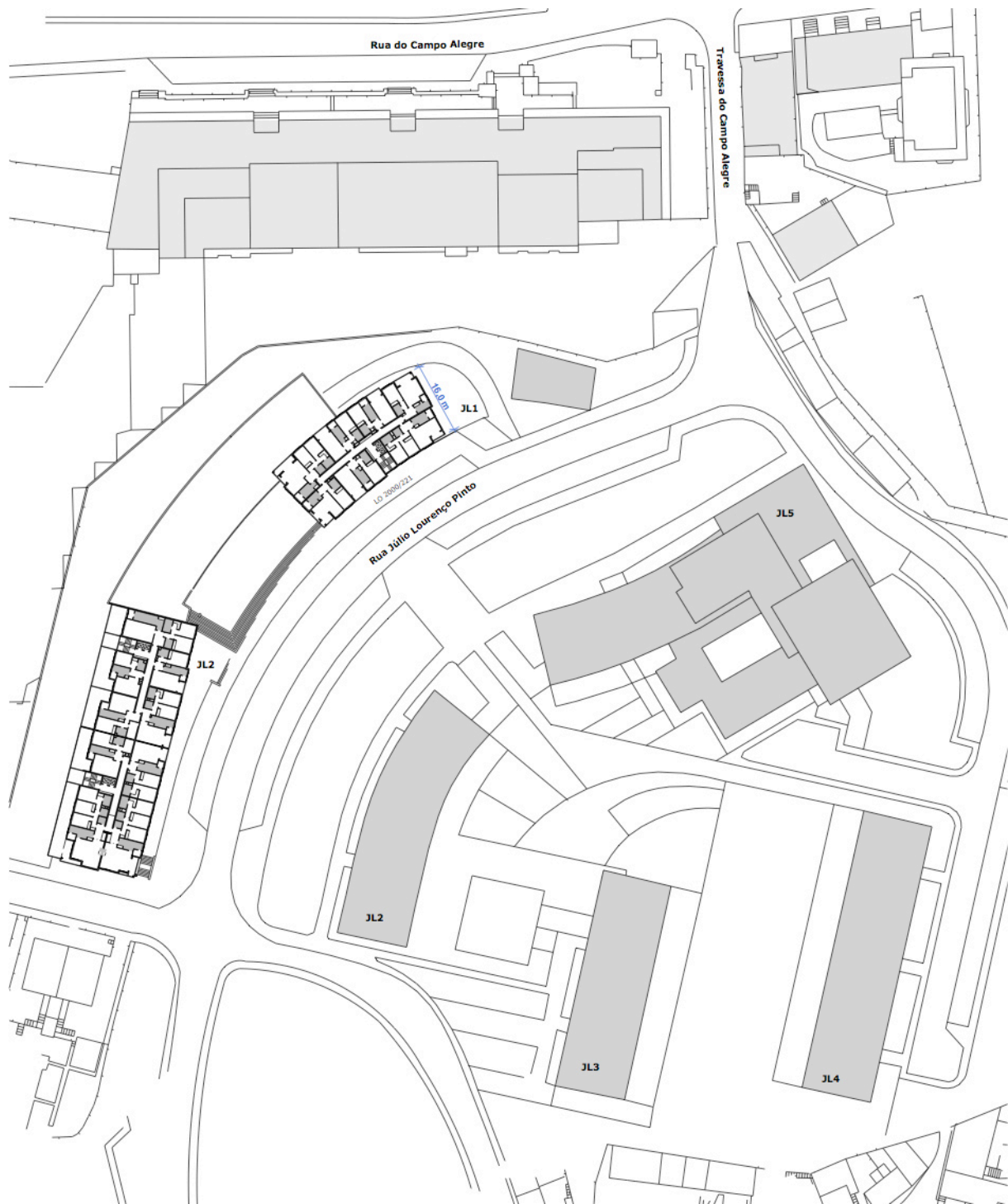


Figure 24. Varandas da Foz general plan. Floor-plan (western buildings). Esc. 1/1400 (author's drawings)



### 3.4. Some concluding notes

*“(...) the multi-family housing typologies are dominant in the urban context and reflect a determined city model partial accomplishment. To intervene in those contexts implies the awareness of the architectural and urban planning options that might be involved.”* (Barata Fernandes, 1996, 301)

The *composite Oporto city* is the result of the overlap of fragments from different decades, combined with several intervention strategies, architectural ideas and ways of building. Our research framework expects to underline the fact that new housing building types, like new floor plan distributions, can't ignore long-term formal relations between the city and its buildings. In Oporto, this relationship has traditionally relied on the public space thought, namely on the street's primacy as a structuring anchor, which can still be perceived until the early 1960s/late 1970s interventions.

We cannot establish a direct comparison between the city centre's interventions (like the upper quarters of Sá da Bandeira and Ceuta Street) and later peripheral interventions, due to substantial differences both in the city model proposed and the resulting territory's morphological characteristics. Nevertheless, the degree of their articulation with the pre-existent urban fabric appears to be more like the result of determined typological and morphological intervention options than a consequence of the surrounding's degree of consolidation.

Unlike interventions such as Sá da Bandeira and Ceuta upper quarters (*attractor urban frameworks*, with inbuilt articulation capabilities) or Boavista Residential Park and Campo do Luso Complex (*surface occupation areas, with strong urban concepts*) became integrated pieces of the urban fabric. Other *surface occupation territories* such as Mota Galiza Complex and Varandas da Foz Quarter apparently remained as cut offs. On the morphological relationship between collective housing and the city, these interventions have developed opposite strategies, which seem to have dictate their characteristics as urban fragments.

From this viewpoint, their integration can be explained at several levels that are independent from the city location and the architectural quality of the buildings themselves.

**Adopting strong urban concepts to guide the proposed city models. Defining landmarks.** As a real-estate development, Boavista Residential Park propose a urban model close to some Athens Charter's principles, in which the dimension of the intervention, the building's disposition rationality, the multi-functionality of the program and the existence of reference points, has dictate its success as a independent, but yet cohesive fragment in the city. That's not the case of Varandas da Foz Quarter: in fact, the design of the new street and the blocks implantation define a continuous urban structure, without reference points or symbolic landmarks.

**Promoting the open collective spaces' design.** The highlight of interventions such as Boavista Park and Campo do Luso is the design of the outdoors spaces and the relation established with the traditional street and the pre-existent quarters. In fact, neither the dissolution of the closed urban block, traditional at Oporto, nor the introduction of new residential types seem to have changed, in this particular case, pre-existent and conventional interactions between buildings and public space.

**Privileging the pre-existence's articulation rather than an objectual understanding.** Overtime, the closed design of the Mota Galiza general plan revealed Incapacity to polarize the urban system or create structure for forthcoming constructions or urbanization actions. Focusing upon

this area, it can be said that the objectual understanding in what concerns to the architectural development lead to an unconnected fragment. Although Varandas da Foz and Mota Galiza developments seem to have a similar *surface area occupation* types (as the interventions from the 1970s) generally speaking, their articulation with the pre-existence can be summarized to street connections. In Sá da Bandeira and Ceuta interventions, for example, other buildings dimensions reinforce their urbanity, such as the front facade composition and design, or the floor-plan disposition and partition according the different meanings of the facades.

**Considering the ground-floor occupancy and design.** A general overview of the selected cases studies demonstrates that some options contribute in fact to the residential development's general quality: ground floor apartment units presume privacy concerns, which can be overcome with the outdoors space design; it's useless to consider commercial areas without a connection with the main streets. Alternative programs can be considered, such as equipment areas or qualified entrance spaces, among others.

Understanding that there is a morphological connection between the shape of the house and the shape of the city is crucial to invert an instituted real-state strategy that, since the 1970s, seems to underestimate the public space design.

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## **5. IMAGES CREDITS AND SOURCES**

*1, 2 - Pictures from the original published editions*

*4, 5, 6, 12b, 12c, 16b, 19b, 22b, 22c, 23b – Author's photographs*

*7 – Oporto Municipal Archives, D-CMP/3/25, fol.1*

*8 – Aerial photography, 1939 (f19\_n409.jpg). Oporto Municipal Archives. Author's annotations*

*9, 10, 14, 18, 24 - Author's drawings*

*11 – João Menéres photographs, published in Correia Fernandes, M. (2001) and Tavares, D. (2001)*

*12a, 16a, 19a, 22a – Images from Google Earth*

*13a, 15a, 20a – Oporto Municipal Archives. Aerial photography, 1939 (f22\_n509.jpg; f10\_n135.jpg; f16\_n285.jpg)*

*13b, 15b, 20b, 23a – Extract from Oporto Master Plan drawings (1962)*

*17 – Drawing published in Ricca (2001, p.46)*

*21a – Filipe Jorge Aerial photograph published in Jorge, F. (2000, p.61)*

*21b – Drawing published in Pádua Ramos, L. (2013, p. 287)*

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